COMPLETE LISTING OF CLAIMS

1 (Currently Amended) An ~~monoclonal or polyclonal~~ antibody that specifically binds one or more ~~having high affinity for a~~ peptide selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

2 (Original) The antibody of claim 1, wherein said antibody is a monoclonal antibody.

3 (Currently Amended) The antibody of claim 1, wherein said antibody specifically binds ~~has high affinity for~~ the peptide Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1).

4 (Currently Amended) The antibody of claim 2, wherein said antibody specifically binds ~~has high affinity for~~ the peptide Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1).

5 (Currently Amended) The antibody of claim 1, wherein said antibody specifically binds ~~has high affinity for~~ the peptide Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4).

6 (Currently Amended) The antibody of claim 2, wherein said antibody specifically binds ~~has high affinity for~~ the peptide Phe-Xaa-Gly-Leu-Met-NH_2 , where Xaa is variant Phe or Val (SEQ ID NO:4).

7 (Currently Amended) The antibody of claim 1, wherein said antibody specifically binds ~~has high affinity for~~ the peptide Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2)).

8 (Currently Amended) The antibody of claim 2, wherein said antibody specifically binds ~~has high affinity for~~ the peptide Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

9 (Original) The antibody of claim 1, wherein said antibody is cross-reactive with each of peptides Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2 , where Xaa is variant Phe or Val (SEQ ID NO4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

10 (Original) The antibody of claim 2, wherein said antibody is cross-reactive with each of peptides Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2 , where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

11 (Currently Amended) A method for detecting magnesium binding defect comprising:

a) measuring in body fluids other than blood plasma the level of one or more peptide ~~having an amino acid sequence~~ selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2); and

b) comparing said level to a standard,

wherein a reduced level of said peptide is indicative of said magnesium binding defect.

12 (Currently Amended) The method of claim 11, wherein said level of peptide is measured by using an antibody to one or more peptide ~~having an amino acid sequence~~ selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

13 (Original) The method of claim 12, wherein the antibody is monoclonal.

14 (Original) The method of claim 13, wherein the monoclonal antibody cross reacts with each of said peptides

15 (Original) The method of claim 12, wherein the antibody is employed in an immunoenzyme assay.

16 (Original) The method of claim 15, wherein the immunoenzyme assay is enzyme-linked immunosorbent assay to quantitate the concentration of said peptide in blood serum.

17 (Original) The method of claim 12, wherein the antibody is polyclonal.

18 (Canceled)

19 (Canceled)

20 (Canceled)

21 (Currently Amended) A method for monitoring progress in treatment of the magnesium binding defect in an individual, comprising:

a) measuring the level of one or more peptide in a sample of body fluid of said individual, said one or more peptide ~~having an amino acid sequence~~ selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2);

b) treating the individual;

c) repeating step a); and

d) comparing said level of peptide of step a), to the level of the peptide of step c) ~~after treatment~~,

whereby a significant increase in the level of said peptide after treatment is indicative of progress of treatment of said individual.

22 (Currently Amended) The method of claim 21, wherein said level of peptide is measured by using an antibody to one or more peptide ~~having an amino acid sequence~~ selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

23. (Previously Presented) The method of claim 22, wherein the antibody is monoclonal.

24. (New) An immunoassay method for detecting one or more peptide in a sample of body fluid, comprising the steps of contacting the test sample with an antibody according to claim 1, and determining binding thereof to said peptide in the test sample, wherein said one or more peptide is selected from the group consisting of: Phe-Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:1), Phe-Xaa-Gly-Leu-Met-NH_2, where Xaa is variant Phe or Val (SEQ ID NO:4), and Phe-Gly-Leu-Met-NH_2 (SEQ ID NO:2).

25. (New) The immunoassay method of claim 24, wherein said body fluid comprises blood.

26. (New) The immunoassay method of claim 24, wherein said peptide is labeled, and said antibody is conjugated to a solid phase, whereby a competitive assay can be performed by exposing said antibody-solid phase conjugate to the test sample and the amount of analyte associated with the solid phase is measured using the labeled peptide.

27. (New) The immunoassay method of claim 26, wherein said label is one or more of a radioactive label, fluorescent label, biological label and enzymatic label.

28. (New) A diagnostic reagent or kit comprising the antibody of claim 1.